



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,654	06/01/2001	Takao Miyazaki	Q64277	9154

7590 06/10/2003
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLS
2100 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, DC 20037-3213

EXAMINER

FEGGINS, KRISTAL J

ART UNIT PAPER NUMBER

2861

DATE MAILED: 06/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,654

Applicant(s)

MIYAZAKI, TAKAO

Examiner

K. Feggins

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-30 is/are allowed.
- 6) ☒ Claim(s) 31-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujishiro (US 5,629,729) in view of Wagner et al. (US 6,152,038).

Fujishiro disclose the following claimed limitations:

* a printer useable with thermal transfer material/thermosensitive recording medium/ (fig 1 & 11, col 5, lines 17-25)

* wherein said thermal transfer material comprises a support, and first, second and third thermosensitive coloring transfer layers having thermoplasticity, overlaid on said support layer in sequence from said support layer for developing one of three colors different therebetween, said first and second thermosensitive coloring transfer layers having optical fixability in response to electromagnetic rays (figs 1, 11, col 5, lines 51-65)

* said printer comprising a feeder for feeding said thermal transfer material along a feeding path (fig 1, col 5, lines 17-36)

* a thermal head, disposed in said feeding path, for heating and pressurizing said thermal transfer material by contacting said support while said coloring transfer layer is placed on an image receiving material, so as to record

an image thermally in said first, second and third thermosensitive coloring transfer layers and transfer said coloring transfer layer to said image receiving material (figs 1, 11, col 5, lines 17-65)

- * a first fixer lamp/22/ to emit electromagnetic rays in a first wavelength range to fix said first thermosensitive coloring transfer layer (col 6, lines 6-30, fig 1);

- * a second fixer lamp/21/ to emit electromagnetic rays in a second wavelength range, different from said first wavelength range, to fix said second thermosensitive coloring transfer layer (col 6, lines 16-30, fig 1).

- * a printer usable with thermal transfer material, wherein said thermal transfer material comprises a support, and first, second and third thermosensitive coloring transfer layers, overlaid on said support layer in sequence from said first and second thermosensitive coloring transfer layers having optical fixability in response to electromagnetic rays, said third thermosensitive coloring transfer layer having thermoplasticity, (figs 1, 11, col 5, lines 17-65)

- * a thermal head, disposed in said feeding path, for heating and pressurizing said thermal transfer material by contacting said support for recording an image in said first and second thermosensitive coloring transfer layers, for recording an image in said third thermosensitive coloring transfer layer, and for transferring said first, second and third thermosensitive coloring transfer layers to an image receiving material (figs 1, 11, col 5, lines 17-65);

Art Unit: 2861

- * a first fixer lamp to emit electromagnetic rays in a first wavelength range to fix said first thermosensitive colorina transfer layer (col 6, lines 6-30, fig 1);

- * a second fixer lamp to emit electromagnetic rays in a second wavelength range, different from said first wavelength range to fix said second thermosensitive coloring transfer layer (col 6, lines 6-30, fig 1).

- * wherein said first and second fixer lamps/21 & 22/ are disposed in said feeding path (see fig 1).

Wagner disclose the following claimed limitations:

- * a release layer overlaid on said support, release layer between the support and the coloring/dye/ layer (fig 2) for the purpose of reducing the distance that the dye must traverse to the final substrate.

- * release layer for developing colors (col 3, lines1-5, col 4, lines3-30, col 5, lines 30-50, col 6, lines 23-31, fig 2) for the purpose of being capable of releasing the UV stabilizer from the remaining intermediate transfer media during heat transfer.

It would have been obvious at the time of the invention was made to a person having ordinary skill in the art to utilize a release layer overlaid on said support, release layer between the support and the coloring layer, release layer for developing colors, taught by Wagner et al. into Fujishiro for the purposes of reducing the distance that the dye must traverse to the final substrate and being capable of releasing the UV stabilizer from the remaining intermediate transfer media during heat transfer.

Allowable Subject Matter

3. Claims 27-29 allowed.
4. The following is an examiner's statement of reasons for allowance: The primary reason for the allowance of claims 27-28 is the inclusion of the limitations of a printer usable with thermal transfer material that includes a thermal head, disposed in a feeding path and downstream from an exposure head, for heating and pressurizing the thermal transfer material by contacting the support of the thermal transfer material while a coloring transfer layer is placed on image receiving material after a latent image is formed, so as to visibilize the latent image and transfer the coloring transfer layer to the image receiving material. It is these limitations found in the claims, as it is claimed in the combination of, which has not been found, taught or suggested by the prior art of record that makes these claims allowable over the prior art.
6. The primary reason for the allowance of claim 29 is the inclusion of the limitations of a printer usable with thermal transfer material that includes an ink jet recording head, disposed in a feeding path, for recording an image to a ink receiving transfer layer with ink; and a thermal head, disposed in the feeding path and downstream from the ink jet recording head, for heating and pressurizing the thermal transfer material by contacting the support of the thermal transfer material, while the ink receiving transfer layer is placed on image receiving material after the image is recorded, so as to transfer the ink receiving transfer layer to the image receiving material. It is these limitations found in the claims, as it is claimed in the combination of, which has not been found, taught or

Art Unit: 2861

suggested by the prior art of record that makes these claims allowable over the prior art.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Xu et al. (US 6,348,939 B1) disclose an digital printable reactive dye and process. Wade et al. (US 5669755) disclose a color image forming apparatus utilizing a release layer. Kita et al. (US 6097415) disclose a thermal transfer recording method and apparatus utilizing intermediate transfer recording medium.

Response to Arguments

6. Applicant's arguments with respect to claims 31-33 have been considered but are moot in view of the new ground(s) of rejection. In regards to Applicant's argument of new claims 31-33 is noted. However, please see the above rejection Fujishiro in view of Wagner et al. Fujishiro discloses two thermal optical fixing device utilized in a printer and Wagner discloses the option of using a release layer next to the support layer.


Art Unit: 2861

Communication With The USPTO

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Feggins whose telephone number is 703-306-4548. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, B. Fuller can be reached on 703-308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-872-9318 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


K. Feggins
June 2, 2003